

1860-1.

VICTORIA.

ANNUAL REPORT

OF THE

GOVERNMENT BOTANIST AND DIRECTOR OF THE
BOTANIC AND ZOOLOGIC GARDEN.

PRESENTED TO BOTH HOUSES OF PARLIAMENT BY HIS EXCELLENCY'S COMMAND.

By Authority:

JOHN FERRES, GOVERNMENT PRINTER, MELBOURNE.

REPORT.

Melbourne Botanic and Zoological Garden,
10th January, 1861.

SIR,

I have the honor of transmitting to you my Annual Report on the labors and proceedings in this establishment during the year 1860.

I.—HORTICULTURAL DEPARTMENT.

The reciprocal interchanges with kindred establishments have been maintained and extended. Contributions of plants, or more particularly of seeds, have been received from the Royal Gardens of Kew, from the Botanic Gardens of Adelaide, Algeria, Amsterdam, Berlin, Boston, Bremen, Breslau, Brisbane, Capetown, Christiania, Copenhagen, Darmstadt, Edinburgh, Geelong, Giessen, Hamburg, Hobarton, Launceston, Madras, Mauritius, Montpellier, Munich, Paris, Petersburg, Portland, Strasburg, St. Jago, Subaorumpoor (India), and Vienna.

For effecting the interchanges with the continental gardens we are indebted chiefly to Dr. W. Sonder of Hamburg.

To a still larger number of botanic gardens abroad collections of seeds have been forwarded on reciprocal arrangement, whilst also extensive supplies were provided to the inland public institutions and to contributors towards this garden. The packages of seeds, irrespective of the vast quantity required for our own borders and nurseries, distributed during the year, amounted to 51,920. Further, 31,455 plants, comprising many thousand seedlings of pines, young elms, poplars, white cedars, Gleditschias, weeping willows, and other useful or ornamental trees, and 36,474 cuttings, were supplied from these gardens, mainly to the public reserves and gardens of Victoria, whilst twenty-two Wardian cases, filled with plants, were shipped to gardens beyond the colony.

The distribution of plants from our open nurseries is chiefly confined to the month of May, in order to avail ourselves of the ground for early restocking our nurseries for next year's supply. The nursery branch of the establishment can readily be extended, as the first main labor of forming our garden and planting our reserves will ere long be completed.

One hundred and ten public institutions have been supplied during the year with flowers and boughs for decorations, and flowers were further granted on many occasions for artistic or scientific objects.

It is gratifying to me to express publicly my thanks to the numerous donors, who, by the transmission of plants or seeds, evinced so friendly an interest in promoting the labors and enriching the possessions of these gardens. Their names are appended :—

Allan, Huon Island.
Allitt, W., Portland.
Alloo, John.
Anstey, George, Adelaide.
Appelius, Carl, Erfurt.
Ball, James.
Bailey, F., Hutt Valley, New Zealand.
Banner, T.

Barbeau, T.
Bardon, W. H., Mount Korong.
Barker, Mrs., Cape Schanck.
Barkly, Sir Henry, Toorak.
Barwood, Mrs. T. E., Richmond.
Beilby, T. W., Dandenong.
Beissel, Gottlieb.
Bennett, T. H., Calcutta.

Beveridge, Peter, Murray River.
 Booth, H.
 Bosisto, T., Richmond.
 Brandis, G., Enfield.
 Brown, T., Como.
 Buckley, Capt., New Zealand.
 Campbell, D. S., Richmond.
 Cane, John F.
 Carey, Mrs. Colonel.
 Carter, G. D.
 Cobham, Mrs., Darling Downs, New South
 Wales.
 Cole, Commissioner, Murray River.
 Cook, I., Richmond.
 Dalhuarty, L. W., Sydney.
 Decaisne, Professor, Paris.
 Dickson, T.
 Donglass, Sam., Williamstown.
 Elliott, Alexander, Prahran.
 Elliott, G. H.
 Elms, G. W.
 Essett, H. B.
 Evans, Dr., M.L.A.
 Ferguson, Capt., Williamstown.
 Ferguson, Fr., Camden, New South Wales.
 Fischer, W. C., Melbourne.
 Francis, George, Adelaide.
 Gibbs, J. H.
 Gillman.
 Gisborne.
 Glass, Hugh.
 Graham, Ch.
 Haast, Jul., Nelson, New Zealand.
 Hardy, M., Algiers.
 Harrington, H. G.
 Harrison, Capt., of *Sydney Griffiths*.
 Heales, Hon. Richard, M.L.A.
 Henderson, E. G., London.
 Henty, Hon. J., M.L.C., Melbourne.
 Heward, R., London.
 Hill, W., Brisbane.
 Hyndman, W.
 Hood, J., M.L.A.
 Hopwood, H., Echnea.
 Howitt, A. W.
 Howitt, Dr.
 Hulke, New Plymouth.
 Hull, W. R.
 Jack, E.
 Jackson, Isaac, Richmond.
 Jeffreys, Jos., Richmond.
 Joachimi, Gust., Collingwood.
 Jones, South Yarra.
 Judd.
 Katzenstein, Isaac.
 Kawerau, Fr., Richmond.
 King, John, Gipps Land.
 Koehler, R. W.
 Lamley, Wm., Richmond.
 Lamoile, Mrs., Toorak.
 Landells, St. Kilda.
 Lang, Th., Ballarat.
 Layard, Capt., St. Kilda.
 Lazar, W. Macgill, South Australia.
 Learmonth, T. H.
 Ligar, Surveyor General.
 Liggins, Sam.
 Lowe, Capt., ship *Th. Ann Cole*.
 McCoy, Professor F.
 McCredie, G. C., Hawthorn.
 McDermott, Mrs., Richmond.

McKeller, Hamilton.
 McKenzie, Port Albert.
 McLannachan, Tunbridge, Tasmania.
 McMillan, Th.
 Maxwell, George, Albany, Western
 Australia.
 May, R. W., St. Kilda.
 Montgomery, James.
 Moody.
 Morrison, Thomas, Prahran.
 Morton, Lockh., South Yarra.
 Mneller, Dr. Ferd.
 Munro, Dr., Nelson, New Zealand.
 Murray, Andrew.
 Murray, W., San Francisco.
 Newell, H.
 Nott, T. A. M., Maldon.
 Parker, Mrs. Knell, Sydney.
 Payne.
 Phillips, E.
 Phillips, John.
 Pinn, David.
 Pollard, N. W.
 Prebble, T. C.
 Pury, Sam. de, Yering.
 Quick, E.
 Ralph, Geo., St. Kilda.
 Ralston, South Yarra.
 Ramel, Paris.
 Ralston, Sydney.
 Ried, Captain, R.N.
 Ried, Dav.
 Robertson, Andr.
 Ross, W., Murray River.
 Rule, J., Richmond.
 Rutherford, G.
 Sherwin, S., Launceston.
 Scott, J., Hawthorn.
 Seidel, A., Geelong.
 Seidel, B., Geelong.
 Sharp, A., Richmond.
 Sheffield, W.
 Shepherd and Co., Sydney.
 Skilling, Th.
 Smith and Adamson, South Yarra.
 Smith, C. B., Castlemaine.
 Soues, Emanuel.
 Staveniott, George.
 Stephen, W.
 Stone, Jos., Emerald Hill.
 Stuart, Ch., Clifton, New South Wales.
 Stubbs, Th.
 Tallermann, D.
 Thozet, A., Rockampton.
 Travers, Judge, Nelson, New Zealand.
 Turnbull, R., South Yarra.
 Turner, John, Natal.
 Tyers, Commissioner, Port Albert.
 Wade, John, Launceston.
 Wadsworth, R., South Yarra.
 Walker, T.
 Weidenbach, Max., Adelaide.
 Wilhelmi, C., South Yarra.
 Wilkinson, Lieut., Madras.
 Williams, Rev. Th.
 Wilson, Andr., Dunedin, New Zealand.
 Wilson, Edward, London.
 Wood, T. F., Angaston, South Australia.
 Woods, Rev. T. E., Penola.
 Woolls, W., Parramatta.

I have further gratefully to record the friendly aid we enjoyed from the Peninsular and Oriental Steam Navigation Company, and from those of our mercantile firms and Commanders of our trading fleet, to whom I had occasion to apply for the gratuitous conveyance of contributions to and from this establishment.

We are also under obligation to the band of the 40th Regiment and the Volunteer band for their periodical attendance at the gardens.

Most of the old roads and tracks in the reserve have been obliterated during the formation of new lawns or their restoration. Several thousand plants, rare or new to our establishment, have been transferred from the nurseries to the open flower-borders, and thus by the annually augmented variety of plants in our shrubberies increased interest will be displayed in the floral treasures of our garden. South African and West Australian shrubs, the majority of which being exceedingly gay and ornamental, are found particularly desirable in resisting the trying effects of hot winds. But it is sincerely to be hoped that after this year we shall not be without the boon of a general system of irrigation, which by the expected approach of the Yan Yean pipes to South Yarra could be introduced to our ground at comparatively limited expense.

The Chamomile edgings have been very extensively renewed. The New Zealand flax has been planted to a considerable extent along the Yarra and lagoons, to be available for copious supplies over all districts of the colony. Probably no fibre-plant is entitled to greater attention than the Phormium, which, whilst it recommends itself on account of its remarkable facility of growth, its plentiful yield and ornamental appearance, furnishes a fibre almost as strong as silk. The plant moreover may be grown in such swampy or inundated localities as are not suitable for any other culture.

It has been my aim to establish gradually natural hedges in various parts of the garden, with a view of assisting to ascertain which species are best adapted for permanently enclosing farms and gardens. The cultivation of various prickly Acacias and Hakeas, the Osage Orange, Hawthorn, Cape Broom (*Genista Canariensis*), South African *Ceanothus*, Whin, Prickly Pear, having engaged our attention for this purpose. Perhaps also the White Mulberry might be advantageously used for forming hedges, and without occupying arable ground would at a later period furnish the material of a new branch of industry in the rearing of silkworms. A large quantity of young plants, cuttings and seeds of this promising tree, were distributed last season, by which means it may be to any extent multiplied throughout the country, as it has been remarked that nothing surpasses the facility with which it may be increased from cuttings.

Many different trees, protected by iron guards or fencing, have been planted in the northern zoological reserve, not merely to enhance the beauty of the park-like spot, but also to subject certain species cultivated on the southern ground in decomposed silurian rock to a trial in the basaltic soil of the northern enclosure.

During this season it has been one of our objects to secure large quantities of seeds of some of our rapidly-growing trees, for introduction into timberless countries stretching through climatic zones similar to ours. Supplies were forwarded to Algeria, Port Natal, United States, and the Feejee Islands. Consignments of such seeds will be also made early this season, on request, to the Government of Hong Kong and to the British Consulate of Jerusalem.

Attention has repeatedly been directed to the great resources we possess throughout many of our littoral mountain districts in our fine Blue Gum Eucalypti. Shipments of their wood have already taken place to ports of India, otherwise famous for their timber, where also the value of this tree on account of its dimensions and durability, both in a dry and wet state, is now fully recognised; and it is deserving of our deep consideration, whether a much felt want of timber for ship-building in Great Britain cannot be supplied from this colony.

A renewed display of our resources in timber, for which the forthcoming grand Exhibition in London will offer an appropriate occasion, cannot be otherwise than beneficial to the colony.

Many plants of interest and utility have been brought into possession of this establishment during the past year. Amongst them I may enumerate the Breadfruit tree, received from the Feejee Islands through the kind aid of Sam. James, Esq., of Levuka, the Madagascar Lace-plant, brought from the Botanic Garden of Mauritius by Captain Russell, of the *Grecian Queen*, the Canadian Blackberry, introduced by Mr. G. Elliot, several rare pines, &c. Additional importations are daily expected.

We have been favored with the importation of a large quantity of tea seeds through the generosity of His Excellency Sir Hercules Robinson, Governor of Hong Kong. Notwithstanding the enormous discrepancy in the price of labor in the native country of the tea plant and here, it may be presumed that the trial of the growth will finally prove advantageous for local supply, particularly to the Chinese population in remote inland districts.

Some additional walks were formed both in the northern and southern ground and lined with trees, the road material being conveyed from the quarries and gravel pits adjoining the gardens.

Anxious to afford in due course of time the greatest facility for information on the respective value of trees, either deciduous or evergreen, eligible for avenues, I selected and established as great a variety in our garden for this purpose of those likely to prosper in this climate and which were within my reach. Aleppo Pines, Illawarra Flame trees, Sycamores, *Ailantus glandulosa*, *Pawlonias*, Blue Gums, Elms, White Cedars, Moreton Bay Figs, Silver Wattles, New Zealand and Gipps Land *Pittosporums* (*P. undulatum* and *P. eugenioides*), Black Poplars, Poplar Bottle trees (*Brachychiton populneum*), Laburnum, *Grevillea robusta*, Sugar Maples, *Corynocarpus*, Chinese Locust trees, have already been planted. To these will be added Oriental Planes, *Hymenosporum flavum*, the Red Gum tree of Western Australia, *Virgilia Capensis*, Mulberries, *Parkinsonia aculeata*, several species of Ash, Elm, Poplar, *Glochidion Australe*, *Cupania xylocarpa*, North American Locust trees, Spanish Chesnut, Horse-chesnuds, Manna Ash, Walnuts, Olives, Bottle trees (*Delabechia*), and other hardy suitable trees, of many of which a supply is provided in our nurseries. The Oriental Plane, as pointed out by Mr. Edward Wilson, is probably in this climate one of the most suitable of all deciduous trees for planting along public promenades.

I can, however, not suppress my opinion that some of the deciduous trees of the cold temperate zone are, in *exposed localities*, less adapted for our avenues than many of the evergreen trees from isothermal parallels corresponding with ours, and it appears desirable that whenever deciduous trees are chosen for long lines of public plantations (unless the lining of streets be excepted) they should alternate with such as bear evergreen foliage, to avoid the appearance of unbroken masses of leafless trees during that season when we enjoy the most lovely verdure in our vegetation. With a view of establishing in future a shady promenade between the City bridge and the southern division of the garden, a double line of *Eucalyptus globulus* has been planted; this tree has been chosen not only on account of its unparalleled rapidity of growth, but also as one of the few capable of resisting the drought to which that special locality is so strongly exposed. Interplantation of elms is contemplated, and as the trees gradually advance to strength, their lasting iron enclosures will again be available to raise successively row after row of varied trees throughout our reserves.

The rapid decay of the wooden fences has suggested the renewal of all our enclosures by iron railings, a change which, greatly improving the appearance of our ground, has during the past year already been partially effected. Whilst carrying this measure out we were enabled to extend considerably the nursery ground, from whence annual supplies, increased with the augmented requirements of our public institutions, will be rendered available. It afforded also the opportunity of temporarily enclosing, under the sanction of the Honorable Board of Land and Works, about three acres of the domain at the south-western part of the garden. This piece of ground, situated in the immediate vicinity of the office building, and thus, under more direct constant supervision than the other parts of the garden, is now devoted to the establishment of a special experimental garden, which in the less protected parts of our ground it would have been vain to initiate.

A variety of carefully named fruit trees, for the greater part a donation of Messrs. Seidel, of Ceres nursery, of dye, medicinal, and fibre plants, vines, grasses, forage plants, &c., will here be subjected to experiments, and may afford to the visitors another source

of information. Any fruit in future hereby obtained may be transmitted to our hospitals and benevolent institutions. In laying out this ground it has been my object, by interspersing the plants of utility with evergreen ornamental shrubs and trees, to retain the landscape beauty of the spot unimpaired.

Some additional portions of the ground have been brought under cultivation. A line of basalt boulders has been placed along the abrupt edge of the northern lagoon; the island in the latter has been raised beyond the height of ordinary Yarra floods and planted for shelter of breeding waterfowl; the depressions in the ground of the northern reserve have been filled up. The number of seats become augmented. Unimpeded access to the Yarra footbridge also at night time will be given in future by a lateral footpath leading from the bridge to the public road at the eastern side of the gardens.

Additional painted iron tallies have been attached to such an extent to the plants throughout the ground as to augment their number considerably beyond two thousand; also part of the old ones being replaced.

In the class-ground, where the principal hardy representatives of the various natural orders of plants are concentrated in systematic order, information on most of the species established in the garden may be gathered at an easy glance. Reviewing, for instance, those Coniferae assembled there, it will be at once perceived which species of pines are deserving our particular attention when placed in comparatively barren and exposed positions.

The quick development and healthy appearance of the *Cupressus macrocarpa*, *torulosa*, *Uhdeana*, of the Cedar of Goa, the Deodor Cedar, the *Araucarias* from Moreton Bay, Norfolk Island and New Caledonia, of the Wide Bay Kaurie, which endures the vicissitudes of our climate evidently better than its New Zealand congener, the Japanese *Cryptomeria*, which ripens its seed-vessels here already in the fifth year of its growth, of the New Zealand *Totara*, of *Podocarpus elata*, of the Cluster Pine, Haleppo Pine, Corsican Pine, of *Juniperus Bermudiana*, of the native *Callitris*, of the East Australian *Octoclinis*, of *Taxodium* and *Sequoia*, and above all, of the *Cupressus Goveniana*, will on inspection persuade the visitor of the desirability of having these useful and noble pines planted copiously throughout the country.

Of the *Sassafras* Bark, which might be so extensively gathered in many of our fern-tree gullies, specimens have been forwarded to Baron Liebig and Dr. Wittstein, who have readily consented to subject this valuable drug to a chemical analysis, whereby it is hoped that its powerful tonic properties will be more universally recognised and a remunerative article of export be added to our native resources.

It may not be improper to state on this occasion that the principles to which I have adhered in my administration of this establishment are to conduct my operations so that the intrinsic property of the gardens and its institutions may increase in proportion to the outlay and support granted by the Government and Legislature, and that the sum invested may yield an ample return in the supplies provided by us, irrespective of our endeavor to render the establishment a source of recreation and information to the multitude of our fellow-colonists.

The number of visitors counted on Sundays as entering the gardens at the main gates has been during 1860, in the southern ground, 125,059; in the northern ground, 79,010.

II.—ZOOLOGICAL DEPARTMENT.

In this division of our establishment a steady progress has taken place during the year, and whilst most of the animals, when recovered from the effects of transit, have enjoyed at all seasons perfect health, it has also been satisfactory to notice their increase and therewith the augmented value of our property. Thus thirteen llamas, five angoras, five fallow deer, and one Sumatra deer, were born during the past year. The llamas, which when we received them, less than two years ago, numbered nineteen, are now

advanced to thirty-seven. This number will, with the early commencing lambing season, likely be augmented to fifty, and moreover, the future offspring will show the desired improvement of breed effected by the supply of a pure male alpaca for the llama flock. Two other highly valuable alpacas, most generously granted by the Government of New South Wales, have been placed with our flock. A proposition of Charles Ledger, Esq., to secure, whilst revisiting South America, vicunas and pure female alpacas for this establishment, has received the recommendation of the committee and the favorable consideration of the Government. Samples of angora, llama, and alpaca wool, obtained from the animals of this garden, were forwarded for examination to Mr. Beazley, of London.

Out of the sum of £500, sanctioned by Parliament for the introduction of useful animals, £350 have been devoted by the committee for obtaining Cashmere goats and Chinese sheep. Messrs. Grice, Sumner and Co. have kindly consented to secure the importation of the former, and W. Lyall, Esq., M.L.A., to arrange for the introduction of the Chinese sheep. Intimation has been received from the Honorable R. Rawson, Colonial Secretary at Capetown, that an officer of the Government at Natal has been entrusted with the selection of the South African game, which the committee is anxious to acclimatize in this country. For the transmission of these quadrupeds a remittance has been made. An ostrich, shipped for us from Capetown by Mr. Layard, died on the voyage. An application has been submitted to the Government of the United States to aid in the introduction of the North American beaver, judiciously pointed out as desirable by Dr. Embling.

Gold pheasants, curassows, ortolans, and many varieties of waterfowl kindly selected for this garden by Edward Wilson, Esq., are on their way to this establishment;* and, according to a notification from the burgomaster of Cologne, the administrators of the zoological garden of that city have arranged to furnish in reciprocation for some black swans and for some contributions yet to be forwarded, select varieties of fowls, doves, water birds, and some hares and remarkable kind of rabbits.

A brick reservoir, supplied with river water by a small mill, has been constructed for the temporary reception of such foreign fish as may from time to time be introduced into the colony. At present it contains only eighteen tenches, a few dace and minnows, forwarded by Mr. Wilson. By the *Lincolnshire*, which brought these fish, three species of Yarra fish were returned to the Zoological Society of London; and as the owners of this ship have permitted the erection of a permanent tank for further transmission, we will be able to forward the cod and other superior Murray fish at a future occasion.

Two attempts to introduce the guaranier from Mauritius to Victorian ponds, a plan initiated also through Mr. Wilson, have failed, either in consequence of an insufficient supply of good water, or on account of the coldness of the temperature through which during the winter season these fish had to pass on their way. It is, however, probable that the renewed attempt of Captain Russell, who, as well as the authorities at Mauritius, deserves the highest praise for the ready response to our request in aiding this enterprise, will be attended with success, improvements in the means of transmission having suggested themselves, and the season now being favorable for the purpose.

Whether we appreciate the vast practical benefit which would accrue to this country by transferring the salmon to Victoria, or dwell on the likelihood of our alpine streams being well suited for their propagation, it is evident that one of the most important labors next devolving on the Zoological Committee will consist in reiterating the trial of bringing salmon ova to this part of the globe.

Resting on valuable experience gained by Mr. Alexander Black, the conductor of the first experiment instituted by Messrs. Wilson and Youl, under the aid of many other gentlemen in London, it is almost certain that in a favorable voyage the salmon eggs, irrigated on artificial gravel-beds, may safely reach our shores, provided that a sufficiency of ice is available throughout the voyage for maintaining a constant supply of fresh, cold

* This valuable consignment arrived by the ship *Prince of Wales*, under the careful superintendence of F. Lacy, Esq., whilst these pages passed the press.

and pure water. Special support having been sought for this purpose by the Zoological Committee, from the Government, it will probably be possible to institute the next arrangements for salmon introduction during the northern winter, 1861-1862.

Considerable losses were sustained amongst the singing birds which successively during the year were transmitted as donations from Mr. Edward Wilson. The greater number suffered much on the voyage, and many were, in the half-featherless state in which they arrived, not even able to endure in the most sheltered part of our aviary our winter temperature, and had to be placed in the palm-house until their plumage was restored. These birds having been sent principally with a view to endeavor that their naturalization might be effected, seventeen pairs of thrushes, eight pairs of blackbirds, three pairs of starlings, and twelve pairs of skylarks were liberated, some in our gardens, others near the Yarra Bend Asylum, on Phillip Island, Sandstone Island, and Churchill Island; and it is gratifying to record that at the Botanic Garden the liberated larks, thrushes and starlings reared successively their broods. The same results have probably attended the experiment with the blackbirds, of which, however, we have no positive proof, and in all likelihood also the birds set free in the other above-mentioned and seemingly very secure spots may have increased.

Under these circumstances it will decidedly be preferable to give on all occasions at once freedom to such birds as are intended for multiplication, and not required as singing birds for aviaries. For although our large densely planted aviary was on purpose sparingly stocked with birds, and many pairs were removed to two other buildings fitted up during the breeding season for their reception, it appeared that the mutual hostility of the thrushes and blackbirds frustrated the final success of rearing their young in confinement.

Ten pairs of blackbirds, three pairs of starlings, ten pairs of thrushes, two pairs of linnets, seven pairs of larks, two pairs of goldfinches, were distributed to gentlemen who had constructed aviaries sufficiently spacious and secure to render the prospect of the increase of these birds rather hopeful. But I am as yet not in possession of any reports on their experiments. Several pheasants were also provided for breeding purposes to private establishments.

Some of the English pheasants, presented by the Duke of Newcastle, Lord Caernarvon, and Mr. F. Buxton, were liberated by Mr. Rogers at Sandstone and Churchill Island, where some of them, after the lapse of many months, were still seen, and others were set free by Mr. McHaffie, on Phillip Island.

From two pairs of English pheasants retained at the garden, and one pair of silver pheasants, we obtained hitherto this season about forty young birds, and a considerable number of eggs are still under incubation. It will, therefore, be within our means to add these birds to the feathered tribes of our ranges, where climate, comparative security, and abundant food, seem to augur well for their naturalization.

No special vote for stabling and fencing being available in 1860, only some light enclosures could be made for separating kangaroos, waterfowls, swans, &c., at the northern lagoon. But notwithstanding rafts, or small floating islands, shaded with reedy plants, were provided for the British swans, they abandoned their nesting places at the last stage of incubation.

One of the most interesting additions to our menagerie has been that of a pair of young watermoles (*Ornithorhynchus paradoxus*), contributed by Jas. W. Wood, Esq., of Fitz Roy. As these remarkable creatures are freely partaking of artificial food, it appears by no means unlikely that a contemplated attempt to send a few pairs of them to home establishments, and even a trial to naturalize them in South European waters, would be attended with success, could young animals be secured for the purpose.

The first steps of a general system of interchange with the British and foreign zoological gardens have been made in the transmission to Regent's Park of two dingoes,

several eagles, black swans, waterhens, three kinds of Yarra fish, laughing-jackasses, native ducks and magpies. Black swans have also been forwarded to the Zoologic Garden of Cologne, to the gardeus of Copenhagen, Buitenzorg in Java, and Calcutta. Three native bears were furnished to the Botanic Garden of Adelaide, and one pair of angoras to the Government of New South Wales. Some glowworms were transferred to the University garden.

The transmission of a pair of wombats, particularly desired by the President of the Société d'Acclimatation of France, M. de St. Hilaire, will early be arranged. It is further under contemplation to endeavor realizing the transfer of the lyre-bird to South Europe; for the success of which experiment, the fact of our having been able to keep a young and easily tamed bird, which, however, somewhat sickly arrived, alive for many weeks, holds out some hope. More difficulty may be found in accustoming the native bear, when young, to any other food than Eucalyptus leaves, and to bring thereby the transmission of this singular animal to Europe within the reach of possibility.

It is but right to bear on this occasion public testimony to the unparalleled zeal, patriotic generosity, and prudent care, which have characterized the multifarious efforts of Mr. Edward Wilson, during more than two years, to transfer some of the northern zoological treasures to Victoria.

Whether his selections pointed to animals that will afford new material for our industry, such as the alpaca, or to those that will afford food to the multitude, such as the salmon, or to those that will render the country adopted as our home yet more homely and delightful, such as the feathered songsters now naturalized, all these have equally engaged his praiseworthy attention.

The advantages which at the early return of this gentleman to these shores must accrue from his counsels will be incalculable, particularly when the extensive experience gained by our friend in frequenting the modern zoological institutions at home will be brought to bear on the proposed extension or perhaps departmental separation of our Zoological Garden.

If the choice of animals, kept on public expense, is rigorously restricted to useful species or such as involve no great outlay for sustenance and attendance, we have reason to anticipate that even a much enlarged establishment can be maintained at comparatively small expense, and is likely to produce always proportionate advantages.

Most encouraging it must be to us in our design of adding to the animal riches of the colony from abroad, if we reflect, how singularly favorable the varied physical conditions of the country are for such a purpose. Whilst in the Alps the northern species of deer would browse on many plants similar to those they enjoy in North Europe, our unoccupied desert tracts would afford appropriate retreats to some of the South African game, whereas probably under the singularly mild climate in the forests of the eastern portion of our territory many tropical animals would prosper.

The zoological collection contains at present the following animals:—Llamas, Angora goats, fat-tail sheep, elk, fallow deer, Sumatra deer, Ceylon deer, four species of monkeys, kangaroos, wallabys, two species of kangaroo-rats, English squirrels, two species of flying squirrels, two species of Australian opossum, Indian screwtail, native bears, Indian and Australian porcupines, wombats, watermoles, emus, white and black swans, Chinese geese, Muscovy ducks, spoonbill ducks, Cape Barren geese, one Indian pelican, native companion, one Indian heron, curlews, laughing-jackass, magpies, three species of native owls, three species of native hawks, Australian eagles, Murray pheasants, silver pheasants, British pheasants, Manilla and two species of Feejee doves, ring-doves, bronze-winged pigeons, Indian mocking birds, Indian and British partridges, hedge-sparrows, linnets, canary birds, skylarks, goldfinches, siskins, blackbirds, thrushes, Java sparrows, Australian and Californian quail, one iguana.

Contributions towards the menagerie from the following donors I have great pleasure to acknowledge :—

Allitt, W., Portland.
 Arnott, South Yarra.
 Austin, Th., Barwon Park.
 Baitman and Robin, Riddle Creek.
 Barker, Fr., Prahran.
 Barwood, Mrs., Richmond.
 Bayley, Belfast.
 Bear, Melbourne.
 Brown, Andr., Melbourne.
 Cameron, Hugh, Prahran.
 Clutton, W. H., Warrnambool.
 Crouch, J. F., Mount Gambier.
 Dexter, Mrs.
 Dove and Oswald, Melbourne.
 Elwell.
 English, Melbourne.
 Evans, South Yarra.
 Forster, Wm. M.
 Francis, G., Adelaide.
 Gallogby, G. D.
 Gerard, E. von, Melbourne.
 Gessner, F. D., Dandenong.
 Gipps, T. M.
 Gladsman, E. W.
 Govett, G.
 Hedley, Dr., Port Albert.
 Hudson, J., Campbell Creek.

Hughes, T., Manchester.
 Johnson, W.
 Landells, St. Kilda.
 Lessing, Capt., of brig *Lessing*.
 Levitt, J., St. Kilda.
 Lyall, Wm., M.L.A.
 McCoy, Professor, University, Melbourne.
 McGowan, Sam.
 McHaffie, Phillip Island.
 McMillan, A., Avon River.
 Mallett, Dav., South Yarra.
 Michie, Archb., M.L.A.
 Milne, W.
 Mount, C. A.
 Pearce, Will.
 Perkins, G.
 Powell, Prahran.
 Rogers, T., Sandstone Island.
 Rostron, L., Brighton.
 Shaud, C., Ceylon.
 Spain, H. W.
 Stauway, John, Snapper Point.
 Sumner, T. J.
 Thistlethwaite, Will.
 Wilkinson, D., C.E., Prahran.
 Whelston, Edw., Richmond.
 Wilson, Edw., London.

III.—BOTANICAL DEPARTMENT.

The first wing of a building destined for a Botanical Museum was completed in the early part of the past year, but became only within the last months sufficiently dry to serve as a receptacle for our daily augmenting collections of dried plants, woods, carpological specimens and technical vegetable productions now transferred thither. By consent of the Honorable J. G. Francis, Esq., repositories have been furnished capable of holding 160,000 botanical specimens, and these have for the greater part already been filled with the fascicles of the herbarium. A few months will yet elapse before these extensive and carefully examined collections can be placed in such a perfect order as to be readily and advantageously inspected and consulted. The herbarium received during the year a large accession by the collections formed by Dr. Beckler in the mountain tracts of Eastern Australia between the rivers Hastings and Clarence; further by collections secured in New England by Mr. C. Stuart, by Mr. Eug. Fitzalan at Moreton Bay, by Mr. F. W. Shepherd and T. Ralston at Illawarra, and by Mr. A. Thozet at Rockhampton. These contributions, emanating from localities previously in a botanical view but partially explored, have yielded much valuable information on Australian botany in general, and afforded additional means of elaborating the Flora of Victoria in a critical comparison with the vegetation of the other Australian colonies.

W. Woolls, Esq., of Parramatta, furnished most useful collections of plants from his district, enhanced by valuable notes; Miss Atkinson from the Blue Mountains, T. Wilcox, Esq., from the Clarence River, Mr. George Maxwell from South Western Australia. Contributions towards the herbarium, besides the above, were obtained from the following donors:—

Allitt, W., Portland.
 Archer, Hon. W., Hobarton.
 Ayres, Dr., Mauritius.
 Bowman, Edwd., Upper Darling River.
 Cairns, T., Feejee Islands.
 Eaton, M., Boston, U.S.
 Gray, Prof. A., Boston, U.S.
 Haast, Jul., Nelson, New Zealand.
 Hance, Dr., Hong Kong.
 Hannaford, S., Geelong.
 Head, H. A., Canterbury, New Zealand.
 Heward, R., Kensington.
 Hirschi and Lenné, Castlemaine.
 Hooker, Dr. J., Kew.

Jacekel, W., Melbourne.
 Kriehauff, Fr., Macelesfield, South Australia.
 Ligar, C., Melbourne.
 Meod, L. B., Illinois.
 Oldfield, A., Brown's River, V.D.L.
 Parker, Mrs. R., Sydney.
 Rogers, S., Sandstone Island.
 Smith, C. B., Castlemaine.
 Sartwell, Dr. H. P., Boston.
 Tozer, Hor., Port Macquarie.
 Travers, Jndge, Nelson, New Zealand.
 Warburton, Major, Adelaide.
 Waterhouse, F., Adelaide.
 Woods, Rev. J. E., Penola, South Australia.

The plants gathered by Mr. Fitzalan during Lieut. Smith's expedition to the estuary of the Burdekin, and contained also in our collections, have been made the subject of a special memoir. The botanical collections gathered by Mr. J. M. Stuart, in his last gloriously successful journey to Central Australia and across the continent, were submitted for examination by James Chambers, Esq., of Adelaide. The trustees of the Sydney Museum have, on recommendation of His Excellency Sir William Denison, kindly consented to place at my disposal for examination the botanical treasures gathered by the lamented Dr. Leichhardt in his exploring expeditions. Mr. F. Waterhouse is, under the auspices of the South Australian Government, engaged in carrying out phytological researches in Kangaroo Island, more particularly with a view of furnishing additional material for a botanical statistic of Australia from a spot phytogeographically so interesting.

The number of duplicate dried plants distributed from our herbarium for the purpose of enriching it by interchange has been 8354, the number received being 8556, exclusive of those gathered during professional journeys or obtained through collectors temporarily engaged.

The "Fragmenta Phytographiæ Australiæ," partly elaborated in elucidation of rare Australian plants, contained either in our garden or in our museum, and partly as the precursors of an universal Australian Flora, have advanced to fourteen fascicles. In publishing this work, I had gratifying opportunities of recording at once any botanical discovery of interest, and of acknowledging scientifically the labors of those who have aided in the investigation of the native plants. The thirteenth fascicle contains a systematic essay of the extratropical Eucalypti, completing a preliminary monograph of this genus; the tropical species having been the subject of a paper published in the proceedings of the Linnean Society.

Of the more popular work, "The Plants indigenous to the Colony of Victoria," the greatest part of the first volume is printed, which is at once to be completed when the necessary information, to be sought yet in a new alpine journey during February, and in an autumnal excursion to the Genoa River, shall have been obtained. The illustrations of the Victoria Flora, furnished under my direction by Messrs. Becker and Schoenfeld, have been nearly completed for the three first volumes; thus whenever the main material for the letterpress will have fully accumulated, the rapid issue of the work may be expected.

With a view of extending, previous to the issue of the work on our native plants, the botanical investigations over all the principal parts of Victoria, Mr. Dallachy, the curator of these gardens, was desired to collect during this spring the plants peculiar to the vicinity of the Lower Wimmera and Lake Hindmarsh, horses being provided for his use throughout the journey by the kindness of Hugh Glass, Esq., of Dunkeld, and Alex. Wilson, Esq., of Horsham. Besides a few new plants, several formerly only known from the Tatiara country, Encounter Bay or Kangaroo Island, were obtained in his journey, and by his zeal a good addition was made to our herbarium.

During the month of September I was engaged in elucidating the vegetation along the south-eastern frontiers of the colony, crossing the country from Twofold Bay to the Genoa, along which river I travelled to the coast, deviating to Cape Howe and to the adjoining freshwater lake, and ascended again the Genoa River to near its sources, examining the adjacent elevated country and the Nungatta mountains on my way, where I was rewarded with the discovery of a new Warratah (*Telopea oreades*), which luxuriates at an elevation of 4000 feet, and where also a very remarkable and beautiful tree, hitherto scientifically unknown (*Elæocarpus holopetalus*), was added to our collection.

My anticipations of yet pointing out the existence of many New South Wales plants within the territory of this colony was fully realized, about fifty well marked phanerogamous species and many cryptogamæ being added by this journey to the material for my work. It was further enriched by copious notes on the distribution of species, and in some instances on their probable economical value.

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The narrative file Ranges adjacent to Tyers and
Tangil as printed. route generally northerly &
finally north-easterly

but the gorge close east of head of the Tyers is
distinct and is the Thompson. and the valleys
north of Bawband do go to the Thompson.

Also heads of ~~the~~ one branch of the Tangil ? Western Branch
and of the Thompson actually do start on Bawband plateau
or include streams formerly thought to go to the Tyers
see also Baragwanath map.

In acknowledgment of the aid experienced during this journey by J. Patr. Murray, Esq., the Police Magistrate of Eden, I attached the name of this gentleman to a *Panax* of palm-like habit, found near Twofold Bay, resembling, with its branchless slender stems 60–80 feet long, and its short terminal ramifications and small crown of leaves, almost a *Cocos* palm, and forming one of the most graceful trees of Australia, probably destined to introduce a new magnificent feature into the landscape of our gardens.

The occurrence of many tropical plants in the most south-east portion of the colony testifies to the mildness of its climate, to which I had occasion to refer already in my report issued in 1854. Large Fig trees (*Ficus aspera*), *Stephania hermendifolia*, *Omalanthus populifolius*, *Cupania xylocarpa*, *Rubus acerifolius*, *Sponia velutina*, *Asplenium Nidus*, and *Adiantum hispidulum*, were either noticed within or near the boundaries of the colony south of the 37th parallel; whilst in *Disenma coccinea* and *Eupomatia laurina* we observe unexpectedly within Victoria, extending to an equally far southern latitude, the types of the otherwise almost exclusively tropical families of *Anonaceæ* and *Passifloreæ*. That the *Eupomatia* in these localities attains a height of 40 feet may be regarded as a mark of the vigor of the vegetation; fronds of *Asplenium Nidus* were seen in an equal degree of luxuriance, exceeding the length of 6 feet. The spurious Australian Apple tree (*Angophora intermedia*), the Bloodwood tree (*Eucalyptus corymbosa*), the Woollybutt (*Eucalyptus Woollsiana*), and species of *Dendrobium* (*Dendrobium speciosum* and *Dendrobium Milligani*) exist in Victoria also only in these most distant regions, as the scattered outposts of main masses of plants of Eastern Australia. A list of all the plants discovered in the colony during the year 1860 is appended to this document. This list contains also for the first time an enumeration of some of the Victorian Fungi. On the examination of these the Rev. M. J. Berkeley, F.R.S., has brought to bear his unparalleled knowledge of this order of plants.

The latter part of the month of December was devoted to a journey into the south-western parts of the Australian Alps, principally for the purpose of extending the botanical survey into these regions. Since previously no travellers had penetrated to this part of the country, it may perhaps not be deemed unimportant to furnish a succinct account of my journey. Having brought my equipment to Good Hope Creek, I was induced to relinquish the further use of horses in a country promising in the progress of my journey but little or nothing for their sustenance, and seeing ranges before me, so broken and scrubby that, without tracks being cut, even a pedestrian often cannot force his way onward. After a consultation with Mr. Gladman, to whom the credit is due of having, during his difficult prospecting journeys, first of all mapped a considerable portion of the country between the Baw Baw mountains and the La Trobe River and its tributaries, I started on the 23rd December from Good Hope Creek, accompanied by Messrs. John Russell, John Hamilton, William Randell, Robert Morrison, and Louis Quaas, traversed the ranges adjacent to the rivers Tyers and Tangil on a generally northerly and finally north-easterly course, and crossed and recrossed the above-named northern main tributaries of the La Trobe River, the former rising in the valleys immediately north of the Baw Baw mountains, skirting their eastern extremity and flowing through a deep gorge which separates the Baw Baw ranges from Mount Useful, whilst the Tangil takes its origin on the southern slopes of these mountains in alpine elevations. In our progress over the ranges, which are chiefly timbered with Stringybark trees and a species of White Gum tree, we encountered much impediment by the density of the scrub, the tough-branched *Corræa ferruginea* being particularly obstructive to our march, until in gradual advance to the higher regions the underwood of the lower mountains recedes before the colder temperature, it being universally observed in our Alps, that at elevations above 4000 feet the dense scrubs chiefly on the sea-side slopes of our ranges either vanish or greatly diminish.

After having descended into the main valley of the Upper Tangil, a beautiful mountain torrent, which rolls its waters with impetuosity over the granite boulders of its

bed, a total change in the physiognomy of the vegetation was observed; whilst ascending the main range of Mount Baw Baw, the Stringybark trees were found replaced by delightful Beech forests, which surround the main mountains on all sides, and are interspersed with Highland White Gum trees (*Eucalyptus coriacea*) and Cider trees (*Eucalyptus Gunnii*), under the shade of which certain ferns (*Aspidium proliferum* and *Lomaria procera*) predominate. Nothing can surpass the contrast in the landscape when we emerge from the dreary scrub to the shady forests of these evergreen Beeches (*Fagus Cunninghamii*) which in a dwarfish form ascend even to the alpine summits of this range.

We established our camp on the summit of the eastern highest mountain of the Baw Baw range on the 25th December, and whilst reconnoitering the country around during the subsequent days, found this alpine range to extend about nine miles westerly, rising to three principal summits, which conveniently might be distinguished as East, Middle, and West Mount Baw Baw. The general direction of the range is from E.S.E. to W.N.W. Granite was the rock everywhere observable. Wild cattle, to be found in many parts of the Alps, have as yet not found their way into these valleys. Some of the most colossal granite rocks seen in any of my Australian journeys occur on the north side of Mount Baw Baw. An alpine promontory on the southern side of Middle Mount Baw Baw commands an excellent view over the water system of the La Trobe River. Deep ravines in which the Tyers rises, and which are intersected by Beech ridges, separate the Baw Baw mountain from an almost semicircular range northward, on which, by sanction of His Excellency the Governor, the illustrious names of their Royal Highnesses the Prince Consort and the Prince of Wales have been bestowed. Both rise to the height of 4500-5000 feet, with but slight depressions; and by the latter, Mount Useful and the Barkly ranges (west of the Upper MacAllister River) are brought in conjunction with some of the north-western spurs of the Baw Baw ranges. Fires having in one of the preceding seasons overrun the Albert ranges, the landscape bore a remarkable winterly character—the dwarf lifeless Eucalyptus trees appeared as if defoliated by snow, which however had recently melted under the summer sun, whilst on the ranges thus deprived of underwood the granite boulders became prominently conspicuous. From the summits of the Albert ranges the view extends to Mount Buller, Mount Hotham, Mount La Trobe, and Mount Wellington. Phascogale cinereus and Phascogale Wombat were noticed at elevations nearly 5000 feet high. In alpine plains, elevated 4000-4500 feet, scrubby with heath-like vegetation and a variety of highland bushes, and producing occasional patches of grass and sphagnum-moor, the remotest eastern sources of the Yarra take their rise from valleys between the Albert and Baw Baw ranges, the streamlet soon strengthened by the limpid brooks which from numerous springs descend into the Yarra basin. No more delightful localities could be selected for liberating the red deer and the fallow deer, which would browse here on a vegetation similar to that of their native countries.

Having traversed the Baw Baw mountains in their whole length, we descended to the narrow glen of the Yarra, this river falling in its westerly course over numerous cascades and rapids not less than 3000 feet in a distance of about ten miles from its source. At the point where our examination ceased, and which is in proximity of the remotest spots to which the surveyors advanced, the river varies from ten to fifteen yards in breadth, and is lined with arborescent Ferns, Musk trees, Sassafras, Bedfordias, and other trees usually to be found towards the sources of most of our southern rivers under forests of gigantic Eucalypti.

The descent from Mount Useful was observed to be very gentle towards the lowland of Gipps Land; Beech forests also cover to some extent its lower declivities. Retracing our steps on our track cut through the jungle, we reached the place of our departure again on the 30th December. On my return to Melbourne I visited the Upper Tarwan, availing myself of a track formed by Mr. Devine's prospecting party; the tall *Grevillea Barklyana*

Probably
"21" January 1851

Koala."

= Tarag
"21" January 1851

was discovered on this last occasion. Amongst the plants gathered on the alpine heights a new genus of *Vaccinacæ*, dedicated to a meritorious phytochemist (*Wittsteinia vacciniacea*), is the most interesting, as we recognize in it for the first time an Australian representative of the tribe, embracing the Bleaberry, the Billberry and many similar excellent fruits, which prosper in a kindred climate. Whether the plant is likely to afford a useful fruit remains yet to be ascertained, inasmuch as after the recent deliquescence of the snow the spring vegetation was only bursting forth at the time when we visited the Baw Baw mountains. Plants of the *Wittsteinia* were secured for our garden. The restriction of this plant to the south-western part of the Alps, where it occurs in millions, as also the extensive existence of *Libertia Lawrencii*, *Oxalis Magellanica*, and the vast prevalence of *Fagus*, are to be ascribed to the increased humidity of the climate in this part of the snowy mountains, caused by the copious fern-tree vegetation of the surrounding country south and westward. To the same cause the timber, although in a diminutive state, owes its existence on the summit of these mountains at elevations which in other parts of the Alps are denuded of forest. Yet, although the above-mentioned plants introduce still more strikingly the feature of the highland vegetation of Tasmania into our Alps, my expectations of seeing amongst many other Tasmanian mountain plants also some of the curious alpine pines of that island reappear in our highlands, was not verified. Thus it was proved, that whilst very few endemic species exist in the lowland vegetation of Tasmania, its higher and particularly its alpine ranges nourish many species perfectly restricted to that island. *Decaspora Clarkei* (a dwarf half-shrub, with exquisite edible berries), *Leucopogon Maccraei*, *Orites lancifolia*, *Prostanthera cuneata*, *Podocarpus alpina*, *Gnaththeria hispida*, and especially dwarf scrubs of *Tasmania aromatica* were very conspicuous on the Baw Baw ranges, whilst *Lycopodium scariosum*, *Mitrasacme montana*, *Oxalis Magellanica*, and *Uncinia compacta* were only on this occasion ascertained to exist in the Australian mainland.

The rather sudden S.W. termination of the Alps is almost within sixty miles of the metropolis.

To facilitate perhaps travelling over our snowy mountains, it may be of some importance to point out, that the whole western system of the Alps can be traversed with packhorses without any great obstruction along the crest of the leading ranges. The traveller, then above the deeper valleys of rivers, finds usually supplies of water from springs, and meets more or less limited or extensive pasture ground for halting places. Thus the ranges may be traversed without any considerable descents to lowlands from Mount Baw Baw to the Albert ranges, the Barkly ranges and Mount Useful, again from the Barkly ranges to the source of the MacAllister River, and thence to Mount Wellington, or again in an almost continuous line to the Bogong ranges, from whence during the summer the journey is over mostly grassy country easily accomplished to the Mitta Mitta, Cabongra and Livingstone River.

Most of these alpine tracts have been visited by me in former years, and it is my intention to connect the lines of my highland explorations by a new journey at the end of this summer, in which, as on many previous tours, I shall enjoy the support of Angus McMillan, Esq., by whose generosity and counsel, my researches, it is but right to acknowledge, were always greatly facilitated.

I have the honor to be,

Sir,

Your most obedient and humble Servant,

FERD. MUELLER,

Government Botanist and Director of the
Botanic and Zoologic Garden.

The Honorable the Chief Secretary.

SIXTH SYSTEMATIC INDEX

OF THE

PLANTS INDIGENOUS TO THE COLONY OF VICTORIA,

COMPRISING THOSE

PHENOGAMOUS SPECIES COLLECTED DURING THE YEAR 1860, AND A LIST OF FUNGI
EXAMINED BY THE REV. M. J. BERKELEY, F.R.S.

BY FERDINAND MUELLER, M.D., PH.D.

DICOTYLEDONEÆ.

THALAMIFLORÆ.	CALYCIFLORÆ.	
<i>Dilleniaceæ</i> , Candolle.	<i>Euphorbiaceæ</i> , Jussieu.	<i>Loranthaceæ</i> , Jussieu.
Hibbertia, Andrews.	Poranthera, Rudge.	Viscum, Linné.
H. dentata, Brown.	P. eorymbosa, Brogniart.	V. ineanum, Hooker.
<i>Menispermææ</i> , Jussieu.	Omalanthus, Desfontaines.	<i>Rubiaceæ</i> , Jussieu.
Stephania, Loureiro.	O. populifolius, Desfontaines.	Coprosma, Forster.
S. hernandifolia, Walpers.	<i>Rhamnaceæ</i> , Brown.	C. lucida, J. Hooker.
<i>Anonaceæ</i> , Jussieu.	Pomaderris, Labillardière.	<i>Compositæ</i> , Vaillant.
Eupomatia, Brown.	P. betulina, A. Cunningham.	Eurybia, Candolle.
E. laurina, Brown.	P. elachophylla, F. Mueller.	E. iodochroa, Ferd. Mueller.
<i>Pittosporææ</i> , Brown.	Cryptandra, Smith.	E. dentata, Ferd. Mueller.
Pittosporum, Solander.	C. excisa, Ferd. Mueller.	(Olearia dentata, Moench.)
P. revolutum, Dryander.	<i>Myrtaceæ</i> , Brown.	Minuria, Candolle.
<i>Sapindaceæ</i> , Jussieu.	Bæckeæ, Linné.	M. Kippistiana, Ferd. Mueller.
Dodonæa, Linné.	B. linifolia, Rudge.	Ozothamnus, Brown.
D. triquetra, Wendland.	B. melaleucoides, F. Mueller.	O. pholidotus, Ferd. Mueller.
D. truneatiales, F. Mueller.	Melaleuca, Linné.	Helichrysum, Willdenow.
Cupania, Plumier.	M. Wilsoni, Ferd. Mueller.	H. elatum, All. Cunningham.
C. xylocarpa, A. Cunningham.	M. armillaris, Smith.	Seneccio, Linné.
<i>Diosmeææ</i> , Jussieu.	M. acuminata, Ferd. Mueller.	S. magnificus, Ferd. Mueller.
Zieria, Smith.	Eucalyptus, L'Heritier.	<i>Goodeniaceæ</i> , Brown.
Z. veronica, Ferd. Mueller.	E. eorymbosa, Smith.	Goodenia, Smith.
Eriostemon, Smith.	E. Woollsiana, Ferd. Mueller.	G. barbata, Brown.
E. Ralstoni, Ferd. Mueller.	Angophora, Gærtner.	(G. eistifolia, A. Cunningham.)
E. lepidotus, Sprengel.	A. intermedia, Candolle.	G. stelligera, Brown.
E. capitatus, Ferd. Mueller.	<i>Rosaceæ</i> , Jussieu.	<i>Vacciniaceæ</i> , Jussieu.
<i>Buettneriaceæ</i> , Brown.	Rubus, Linné.	Wittsteinia, Ferd. Mueller.
Commersonia, Forster.	R. acerifolius, Wallieh.	W. vacciniacea, Ferd. Mueller.
C. Fraseri, Gay.	<i>Cunoniaceæ</i> , Brown.	
Lasiopetalum, Smith.	Aphanopetalum, Endlicher.	
L. parviflorum, Rudge.	A. resinosum, Endlicher.	
L. ferrugineum, Smith.	<i>Passifloreææ</i> , Jussieu.	
Rulingia, Brown.	Disemma, Labillardière.	
R. pannosa, Brown.	D. eocinea, Candolle.	
<i>Elæocarpeææ</i> , Jussieu.	<i>Leguminosææ</i> , Jussieu.	
Elæocarpus, Linné.	Daviesia, Smith.	
E. holopetalus, Ferd. Mueller.	D. notabilis, Ferd. Mueller.	
<i>Oralideææ</i> , Candolle.	Pultenæa, Smith.	
Oxalis, Linné.	P. dentata, Labillardière.	
O. Magellanica, Forster.	P. flexilis, Smith.	
No. 19, e.	Podolobium, Brown.	
	P. trilobatum, Brown.	
	Platylobium, Smith.	
	P. Murrayanum, Hooker.	
	Swainsona, Salisbury.	
	S. procumbens, Ferd. Mueller.	

MONOCILAMYDEÆ.	Conospermum, Smith. C. taxifolium, Smith.	<i>Morea</i> , Endlicher.
<i>Laurineæ</i> , Jussieu.	Grevillea, Brown. G. Barklyana, Ferd. Mueller.	Ficus, Linné. F. aspera, Forster.
Cassytha, Linné. C. paniculata, Brown.	Telopoa, Brown. T. oreades, Ferd. Mueller.	Sponia, Commerson. S. velutina, Planchon.
<i>Proteaceæ</i> , Brown.	<i>Santalaceæ</i> , Brown.	<i>Cusuarineæ</i> , Mirbel.
Persoonia, Smith. P. lanceolata, Brown. P. arborea, Ferd. Mueller. P. myrtilloides, Sieber.	Choretum, Brown. C. spicatum, Ferd. Mueller.	Casuarina, Rumphius. C. tenuissima, Sieber.
Isopogon, Brown. I. anethifolius, Brown.		

MONOCOTYLEDONEÆ.

<i>Orchideæ</i> , Jussieu.	Dendrobium, Swartz. D. speciosum, Smith. D. Milligani, Ferd. Mueller.	<i>Cyperoideæ</i> , Jussieu.
Caladenia, Brown. C. barbata, Lindley. C. alba, Brown.	Sarcocylus, Brown. S. falcatus, Brown.	Carex, Linné. C. barbata, Booth.
		Uncinia, Persoon. U. compacta, Brown.

ACOTYLEDONEÆ.

<i>Lycopodiaceæ</i> , Swartz.	Polyporus, Fries. P. sanguineus, Meyer. P. ferrugineus, Fries. P. cichoraceus, Berkeley. P. hirsutus, Fries. P. igniarius, Fries. P. lilacino-gilvus, Berkeley. P. versicolor, Fries. P. oblectans, Berkeley.	<i>Leididium</i> , Gmelin. A. compositarum, Martius. A. goodeniacearum, Berkeley and Mueller. A. ranunculacearum, Candolle.
Lycopodium, Linné. L. Selago, Linné. L. Carolinianum, Linné. L. scariosum, Forster. L. clavatum, Linné.	Merulius, Haller. M. pallens, Berkeley.	Ustilago, Link. U. marmorata, Berkeley and Mueller. U. bullata, Berkeley. U. utriculosa, Tulasne.
Phylloglossum, Kunze. P. Drummondii, Kunze.	Laschia, Fries. L. tremellosa, Fries.	Uromyces, Léveillé. U. puccinioides, Berkeley and Mueller.
<i>Filices</i> , Jussieu.	Thelephora, Fries. T. Sowerbæi, Berkeley.	Puccinia, Persoon. P. aucta, Berkeley and Mueller.
Adiantum, Linné. A. hispidulum, Swartz.	Stereum, Fries. S. spadiceum, Fries. S. illudens, Berkeley. S. lobatum, Kunze. S. hirsutum, Fries.	Morehella, Dillenius. M. semilibera, Candolle. M. aculeata, Persoon.
<i>Fungi</i> , Jussieu.	Tremella, Dillenius. T. lutescens, Persoon.	Peziza, Dillenius. P. velutina, Berkeley and Mueller.
Agaricus, Linné. A. setipes, Fries. A. mesomorphus, Bulliard. A. tropidus, Fries. A. radicans, Rehn. A. Souderi, Berkeley and Mueller. A. Muelleri, Berkeley. A. laccatus, Scopoli.	Clavaria, Linné. C. inaequalis, Otto Mueller. C. flava, Fries. C. argillacea, Fries.	P. Muelleri, Berkeley. P. aurantia, Persoon. P. æruginea, Bulliard.
Hygrophorus, Fries. H. flammeus, Berkeley.	Hirnicola, Fries. H. polytricha, Montagne.	Mylitta, Fries. M. Australis, Berkeley.
Russula, Fries. R. rubra, Fries.	Podaxon, Desvaux. P. pistillaris, Desvaux.	Bulgaria, Fries. B. sarcoides, Fries.
Paxillus, Fries. P. Muelleri, Berkeley.	Heodietyon, Tulasne. H. gracile, Berkeley.	Sphæria, Haller. S. perisporoides, Berkeley and Curtis.
Lentinus, Fries. L. fulvus, Berkeley.	Geaster, Micheli. G. fimbriatus, Fries.	Cystopus, Léveillé. C. candidus, Léveillé.
Xerotus, Fries. X. Archeri, Berkeley.	Lycoperdon, Tournefort. L. Australe, Berkeley. L. glabrescens, Berkeley.	Phyeomyces, Agardh. P. nitens, Agardh.
Schizophyllum, Fries. S. commune, Fries.		
Boletus, Linné. B. napipes, Berkeley and Mueller.		